

# An Astronaut Perspective to the Safety and Mission Assurance

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# A new era of exploration



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Credit: Caspar Benson

# Preparation is key

**PROCEEDINGS OF: INDUSTRY/SPACE DIVISION/ NASA CONFERENCE AND WORKSHOPS on MISSION ASSURANCE**

AD-A152 733

- PROGRAM MANAGEMENT
- DESIGN
- SUBCONTRACT MANAGEMENT
- TEST EFFECTIVENESS
- PRECISE PARTS MANAGEMENT
- MICROELECTRONICS
- CRAFTSMANSHIP
- CONTRACTUAL INCENTIVES
- DEVELOPMENT PROCESS
- COMPUTER SOFTWARE/ RESOURCES
- REP/SOH
- INSTRUCTION AND TRAINING

HYATT HOUSE - AIRPORT LOS ANGELES 28 APRIL - 2 MAY 1980

	Class A Minimum Practical Risk	Class B Low Risk	Class C Medium Risk	Class D Higher Risk
Mitigated Risk	Mitigated Risk	Mitigated Risk	Mitigated Risks	Mitigated Risk
Residual Risk	Residual Risk	Residual Risk	Residual Risk	Residual Risk

Program total risk exposure ↓

← Mission Success Assurance Activities

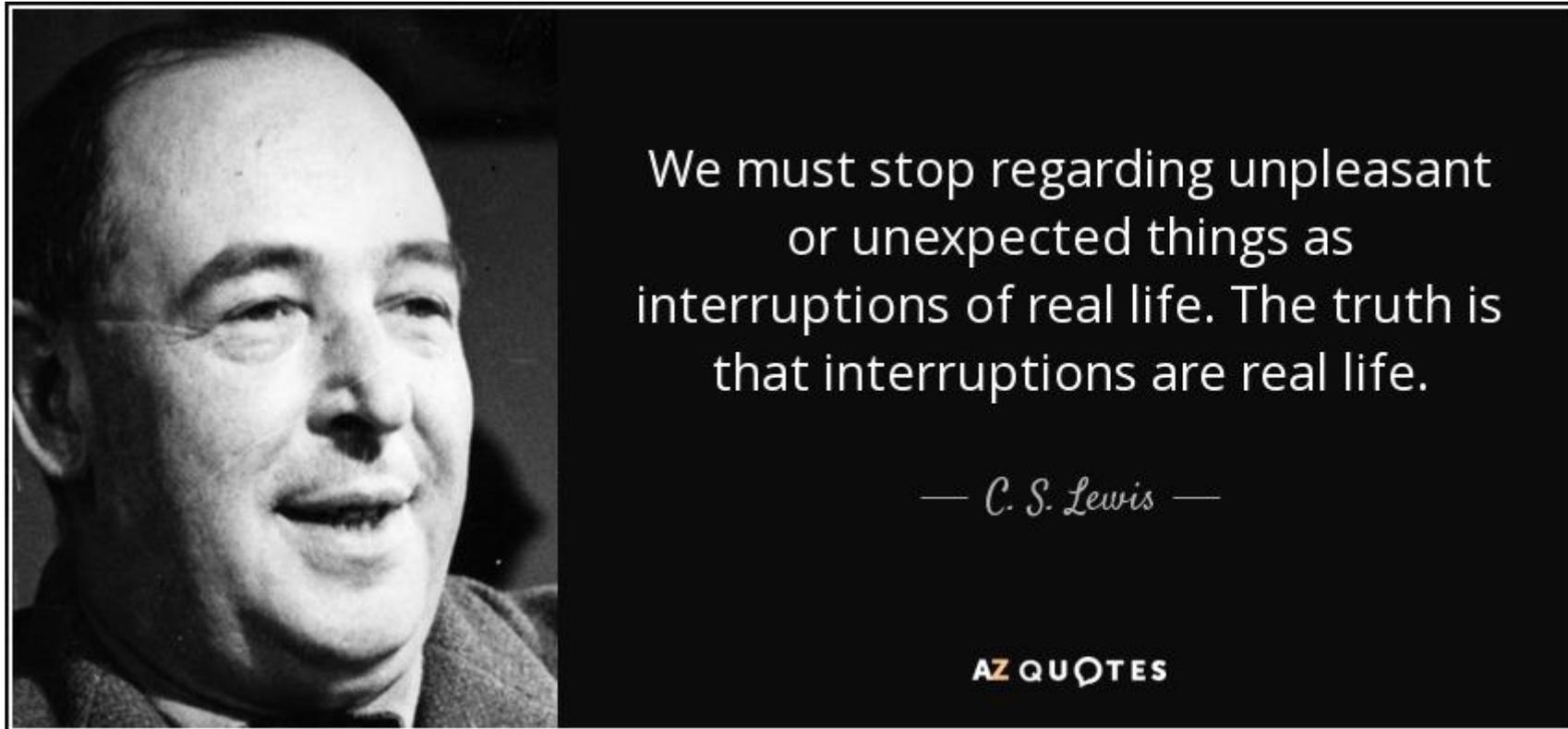
**MILITARY HANDBOOK**  
**DESIGN, CONSTRUCTION, AND TESTING REQUIREMENTS FOR ONE OF A KIND SPACE EQUIPMENT**

DOD-HDBK-343 (USAF)  
01 FEBRUARY 1986

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## 1986 handbook

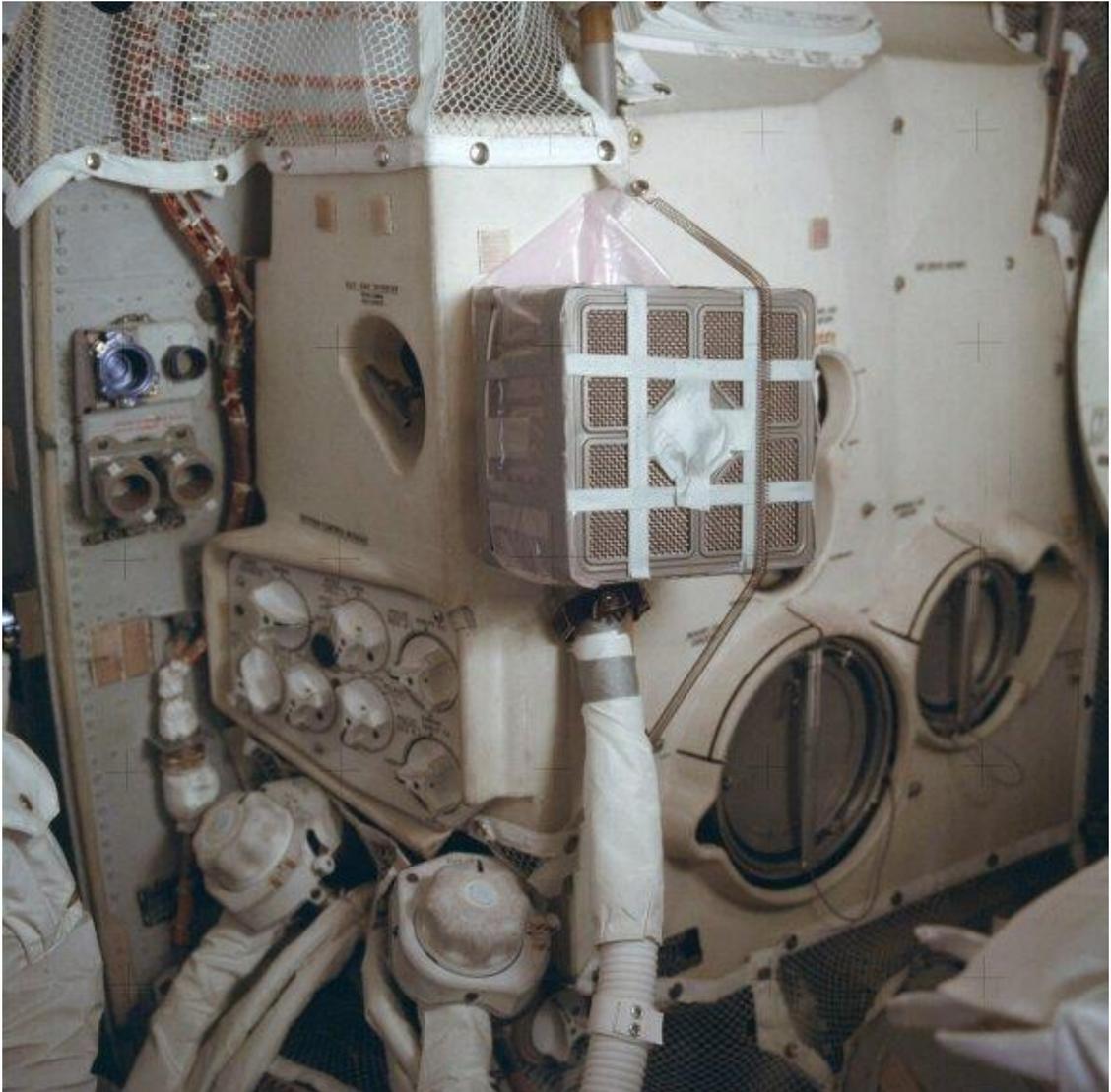
We need to prepare for things we do not know



# Crew is relying on the Ground



Deke Slayton and CO2 filter



# We need to understand the spacecraft



# OGA Filter Repair in Expedition 21



# Make sure procedures make sense

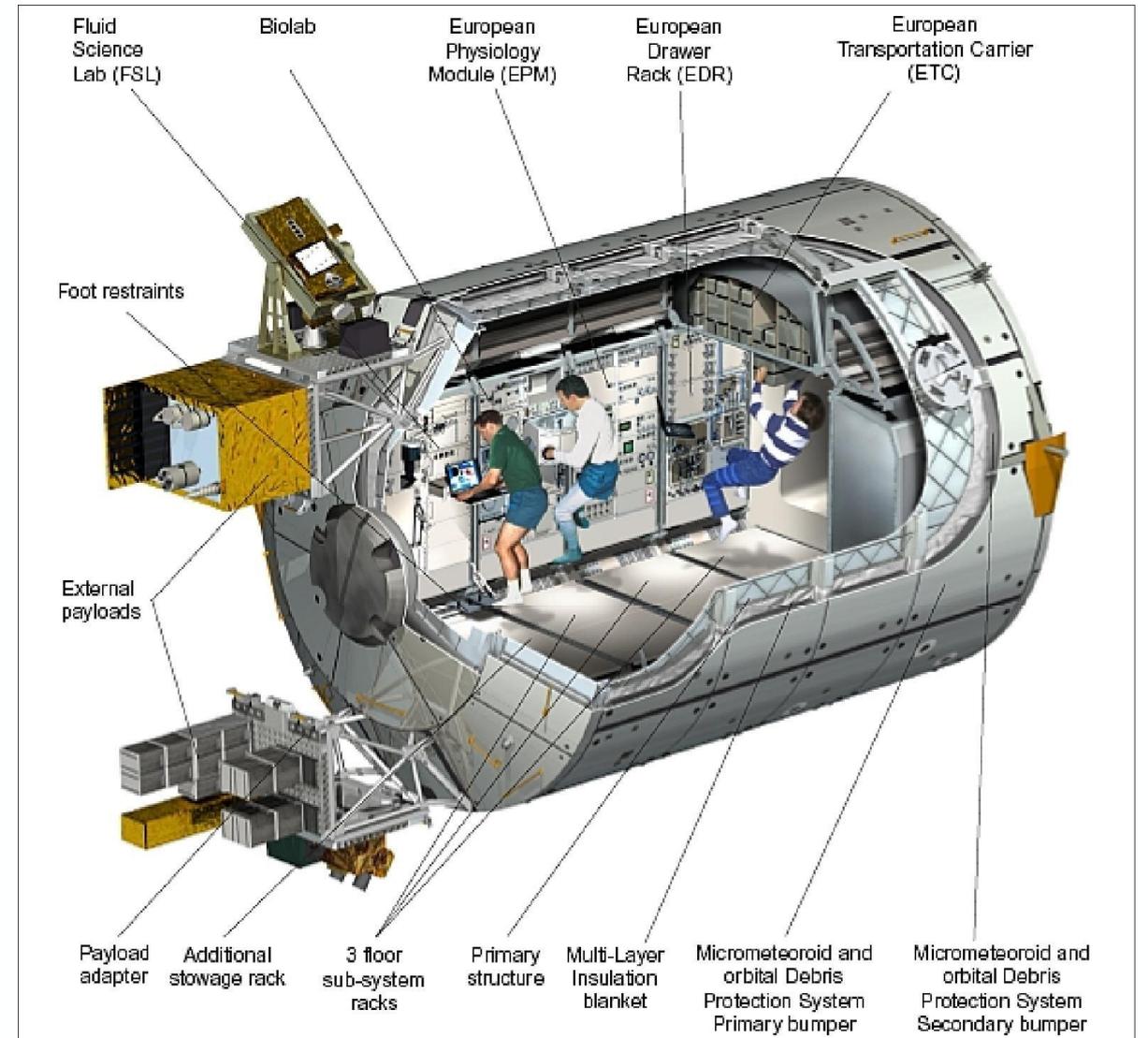


# Make sure procedures make sense



# Crew to make flexible common sense decisions

- Task was to exchange a failed Computer on orbit
- It was found that the captive screws to install the new CMU were missing
- No directions from ground were provided how to proceed
- On own initiative, the crew replaced one captive screw from old to new CMU
- After video evidence, go-ahead was give to do the other screws
- Activity was fully executed on the same day



# Post-ISS – What will be the role of the Agencies?



# How will we operate safely on the Moon?



# Questions?

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